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AN ANALYSIS OF SENTENCE CONSTRUCTION AND PARTS OF SPEECH OF 4 AND 5 YEAR OLD CHILDREN

Submitted by

Margaret Veronica Mahoney

(B.S. in Ed., Clark University, 1941)

In partial fulfillment of requirements

for the degree of

Master of Education

1949

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CHAPTER I

INTRODUCTION AND THE STATEMENT OF THE PROBLEM

CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

The content of the speech of children at different ages is important not only because it gives evidences as to the size of the child's vocabulary and his ability to combine words into sentences at different ages, but also, because it gives a clue as to the personality and the dominant interests of the child.

Hodgkins[1] finds that numerous lists have been published of the speaking vocabulary of individual children but very little appears available regarding the preschool groups. Her study was the tabulation of the spontaneous speaking vocabulary of children in a nursery school, set up for comparison with some of the existing vocabulary lists.

The present study is an enlargement or extension of the Hodgkins investigation, and it attempts to (1) determine the length and type of responses made by children at different age levels, and (2) differentiate word meanings by parts of speech.

For this purpose the study of "The Tabulation of the Spontaneous Speaking Vocabulary of 162 Two to Five-Year Old

1. Alma Matson MacKinnon Hodgkins, "The Tabulation of the Spontaneous Speaking Vocabulary of 162 Two to Five-Year Old Children in a Nursery School". Unpublished Master's Thesis, Boston University, School of Ed., Boston, 1947.

Children in a Nursery School" as reported by Alma Matson MacKinnon Hodgkins was used as a basis for the present study.

CHAPTER II

SUMMARY OF RESEARCH

CHAPTER II

SUMMARY OF PREVIOUS RESEARCH

The study of language development began with the rather casual observation of isolated cases. Most of the early studies were chiefly concerned with the acquisition of vocabulary. Much of the material is of little scientific merit as it is subject to the unreliability of parents' reports. The literature of the field has been brought together by various authors. The Twenty-Eighth Yearbook of the National Society for the Study of Education (1929)[1] includes abstracts of 123 published studies on language development in preschool children and 20 researches in progress at that time.

Studies made in the past fifteen years on large numbers of children have employed scientific control and a remarkable degree of uniformity emerges from these research projects regarding most of the important developmental sequences and group differences.[2] Scientific methods take

1. Twenty-Eighth Yearbook of the National Society for the Study of Education. Preschool and Parental Education. Published by Public School Publishing Company, Bloomington, Illinois. Part II: Research and Methods. Studies in Language Development, 1929. pp. 495-563.

2. Dorothy McCarthy, "Language Development in Children". Manual of Child Psychology. Edited by Leonard Carmichal. New York: John Wiley and Sons, Inc., 1946. pp. 476-569.

the form of observational studies, tests and experiments.

Smith[1] standardized a vocabulary test for preschool children on 273 children ranging in age from eight months to six years. These were revised more recently by Williams and McFarland.[2] Another vocabulary test by Van Alstyne[3] measures only the understood vocabulary of three-year olds and has a reliability of .87.

One of the most consistent findings to emerge from the mass of data accumulated to date on language development seems to be the slight difference in favor of girls in nearly all aspects of language that have been studied. Length of response seems to be the criteria for most investigations. In the study made by Young (1941)[4] on groups relatively homogeneous with respect to socioeconomic level,

1. Madorah E. Smith, "An Investigation of the Development of the Sentence and the Extent of Vocabulary in Young Children". University of Iowa Studies, III;#5, May 15, 1926.

2. H. M. Williams and M. L. McFarland, "A Revision of the Smith Vocabulary Test for the Preschool Children". Part III: Development of Language and Vocabulary in Young Children. University of Iowa Studies, Child Welfare, XIII:35-46, No. 2, 1937.

3. D. Van Alstyne, "The Environment of Three Year Old Children; Factors Related to Intelligence and Vocabulary Tests, Teachers College, Contributions to Education, No. 366, 1929.

4. F. M. Young, "An Analysis of Certain Variables in a Developmental Study of Language". Genetic Psychology Monogram, XXIII:3-141.

there was not a single exception to the general trend toward a slight superiority of girls in length of sentences. Davis[1] found that in nearly every phase of language studied, girls were found to retain up to the nine and one-half year level, the superiority which has been previously demonstrated for the preschool period. This is true of articulation, word usage and length, complexity and grammatical correctness of sentences. Girls use more personal pronouns and conjunctions and less slang.

The findings of Jersild and Ritzman[2] with regard to sex differences in verbosity and vocabulary indicate that girls tend quite consistently to surpass the boys, but not to a degree that is statistically significant.

Summaries of the vocabulary studies of preschool children have been attempted by Tracy (1893), Doran (1907), the Whipples (1909), Waddle (1913), M. D. Horn (1926-1927) and others. Outstanding among individual vocabularies recorded are those by Deville (1890), the Gales (1906), the Whipples (1909), Boyd (1914), Bateman (1919), Nice (1915-1917), the Brandenburgs (1916, Haggerty (1930) and Brigance. All these

1. E. A. Davis, "Mean Sentence Length Compared with Long and Short Sentences as a Reliable Measure of Language Development". Child Development, VIII:69-79.

2. A. T. Jersild and R. Ritzman, "Aspects of Language Development: The Growth of Loquacity and Vocabulary". Child Development, IX:243-259, 1938.

studies indicate that there are marked individual differences in the size of vocabulary at any age.[1]

Jersild and Ritzman (1938)[2] used extensive samples of the conversation of a group of very superior preschool children and reported that there is a tendency for younger children to use a higher proportion of different words in relation to the total number of words spoken.

The Whipples[3] studied the vocabulary of a three-year old child for ten days prior to the child's birthday and recorded a total of 1771 words.

Waddle[4] found in making a summary of the literature of the relative number of the various parts of speech in the vocabularies of children that interjectional speech is characteristic in the beginning. Nouns are acquired early in relatively large numbers. From the first year the verbal element is relatively large. The proportion of adjectives to adverbs is greater at the younger ages. Personal and relative pronouns and subordinating and connecting words are acquired with difficulty.

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1. Dorothy McCarthy, op. cit.

2. A. T. Jersild and R. Ritzman, op. cit.

3. Dr. and Mrs. G. M. Whipple, "The Vocabulary of a Three-Year Old Boy with Some Interpretative Comments". Pedagogical Seminary, 16:1-22, 1909.

4. Charles W. Waddle, An Introduction to Child Psychology. Boston: Houghton Mifflin Company, 1913. 317 pp.

Stern[1] in observing his own children for his study of speech development, found that first there was a period of babble and imitation of sound forms followed by the one-word sentence stage. Suddenly the vocabulary showed great increase, questions appeared as to the name of things and one word sentences were left behind. Vocabulary contents were increased by nouns and verbs and the final stages showed complete mastery of uninflected speech.

Nice[2] has made a number of investigations on individual children. One study recorded the speech of a child from eighteen months to six years. At eighteen months the child's vocabulary contained 133 words; at three years 1139 words; at four years 1765 words and five years 2502 words; and at six years 3075 words. Nouns appeared at fourteen months, verbs and adverbs at sixteen months, interjections and adjectives at seventeen months, pronouns at twenty-two months, prepositions and conjunctions shortly after she was two years old.

1. W. Stern, Psychology of Early Childhood: Up to the Sixth Year of Age. (Translated from the Third German edition by A. Barwell). New York: Holt Company, 1924.

2. M. M. Nice, "The Speech Development of a Child from Eighteen Months to Six Years". Pedagogical Seminary, XXIV:204-243, 1917.

A later study was made by Nice[1] on her eldest daughter using environment as a factor in size of vocabulary. A detailed account is given of the child's environment and the findings show it to be a factor of importance. The child said her first word in her fourteenth month and her first sentence consisting of two words occurred in the eighteenth month. At eighteen months her vocabulary consisted of 145 words; at three years it contained 1205 words; and at four years it contained 1870 words. At three years she used 10 nouns denoting time.

Mateer[2] observed the sounds and conversation of her brother aged four and recorded a total vocabulary of 1020 words. Fifty-five per cent were nouns, twenty-two per cent verbs, fourteen per cent adjectives, four per cent adverbs and two per cent pronouns. She then compared the relative percentage of the different parts with the Tracy investigation and found a close correlation.

Langenbeck[3] made her study of an unusually precocious child. The list was compiled from the child's unaided talk,

1. M. M. Nice, "Development of a Child's Vocabulary in Relation to Environment". Pedagogical Seminary, XXII:35-64, 1915.

2. Florence Mateer, "The Vocabulary of a Four-Year Old Boy". The Pedagogical Seminary, XV:63-74, March, 1908.

3. M. Langenbeck, "A Study of a Five-Year Old Child". The Pedagogical Seminary, XXII:65-88, 1915.

gathered chiefly while she played alone, talking to herself, her dolls and imaginary companions. At sixteen months her vocabulary was 299 words. The total vocabulary contained 6837 words and consisted of 56.8 per cent nouns, 21.8 per cent adjectives and adverbs, 19.3 per cent verbs. The remaining parts of speech amounted to 2.17 per cent. The total number of coined words was twenty-three. Her vocabulary contained 117 color terms, 73 form terms, 107 tactual terms, 31 taste and smell terms and 158 sound terms.

Kirkpatrick[1] found that age was a determining factor in the increase in completeness length and complexity of sentences. He reported that most of the child's first sentences had no subject; many were without an assertive verb; only a few were without an object. The length of the sentence was doubled in a few months, and complex and compound sentences appeared and increased in number with increase in age.

Horn[2] combined the common words from three investigations made through (1) a summary of the literature of the spoken vocabulary of eighty children varying in age from

1. E. A. Kirkpatrick, Fundamentals of Child Study. "A Discussion of Instincts and Other Factors in Human Development with Practical Application". Macmillan Company, New York, 1919. pp. 233-237.

2. E. Horn, "The Vocabulary of Children Up To and Including First Grade". National Society for the Study of Education, Twenty-Fourth Yearbook. Part I: Bloomington, Illinois, Public School Publishing Company, 1925. pp. 185-199.

one to six years; (2) M. D. Horn's study of approximately 500,000 words of Kindergarten vocabulary; (3) P. C. Packer's tabulation of 70,000 running words of the spoken vocabulary of first grade children. All words occurring in the three investigations with a total frequency of fifteen or more, or in two of the three with a total frequency of twenty-five were tabulated. A list of 1300 commonest words was obtained.

Drever[1] observed and recorded for two hours a day the spoken language of twenty-one children in Kindergarten over a period of six to ten weeks. Ages varied from twenty-seven to sixty-three months. He found that the average vocabulary of four children, three years of age was 376 words. of which 54.4 per cent were nouns. The five children, four years old, had an average vocabulary of 451 words, of which 59 per cent were nouns. The twelve children, five years old, had an average vocabulary of 580 words of which 58.6 per cent were nouns.

The Child Study Committee of the International Kindergarten Union[2] made a study of the vocabulary of children before entering First Grade. A list of 2500 words is presented

1. J. Drever, "The Vocabulary of a Free Kindergarten Child". Journal Experimental Pedagogy, V:28-37, 1919.

2. Child Study Committee of the International Kindergarten Union. M. D. Horn, Chairman. A Study of the Vocabulary of Children Before Entering the First Grade. Baltimore: Williams and Wilkins, 1928. 36 pp.

To date this is the only published vocabulary word list for this age level.

Boyd's[1] observations were recorded with regard to age level growth in vocabulary. He found a large increase between two and three years of age and a small but definite increase between three and four. There were comparatively few pronouns in the speech of the two year old child. Only the demonstrative pronouns were in easy use. The use in personal pronouns, occurring during the third and fourth year was responsible for the rapid increase in the number of pronouns used. The vocabulary at seventeen months, consisted of 117 words, 70 per cent were nouns. It consisted of 656 words at two years of age and 19 per cent were nouns. At three years it contained 960 words and 43 per cent were nouns. The total vocabulary at four years consisted of 1031 words with 42 per cent nouns.

Brandenburg[2] recorded the language of "G" for one entire day, and arranged the vocabulary in alphabetical order and according to parts of speech. He concluded that words do not function grammatically in the early stages of linguistic development. A word may be a symbol for an object one moment, for an action the next, and for a quality at

1. W. Boyd, "The Development of Child's Vocabulary". The Pedagogical Seminary, XXI:95-124, 1914.

2. G. C. Brandenburg, "The Language of a Three Year Old Child". The Pedagogical Seminary, XXII-89-120, 1915.

another time. It may even represent several parts of speech at once. His investigation also showed that acquisition of words of whatever class or kind is chiefly a matter of imitation and hence depends almost wholly upon environment. Also verb inflections probably will cause more difficulty than the acquisition of any other class of words. The entire vocabulary contained 2282 words distributed among the different parts of speech as follows: nouns 1171, verbs 732, adjectives 198, adverbs 98, pronouns 36, prepositions 20, interjections 15 and conjunctions 12.

A very detailed vocabulary study was made by Grant[1] on one child. Daily recordings were made from the time she began to use words intelligently. The child was checked against vocabularies of other children and tested on words she had not used before. The number of words learned each month were checked, also the incidence of parts of speech from twelve months through the sixth year. It was found in checking his list against others that there seems to be no standard as to what words shall be included in vocabularies of children and what words shall be excluded.

Hodgkins[2] recorded the spoken vocabulary of the children in her nursery school. At one time, for a period of several months, one person was assigned primarily to this particular task. Some of the parents recorded conversation

1. James Richard Grant, "A Child's Vocabulary and Its Growth". The Pedagogical Seminary, XXII:182-203, 1915.
2. Alma Matson MacKinnon Hodgkins.

that took place at home. The children ranged in ages from two years and three months to four years, nine months at time of enrollment. The words comprising the conversations as recorded were tabulated according to the age of the child. The number of "running words" tabulated is 207,956 and the number of individual words is 2,792. Comparisons were made with existing word lists, principally the I. K. U. list and it was concluded that the English of children from two to five years is far from being established. With the process of mastering pronounciation at hand, they make mistakes in grammar and lack essential words they will need to learn later.

Enright[1] investigated the vocabulary requirements on the Kindergarten level for word meaning comprehension in Grade One reading as a contribution to the general reading program. Her study reveals that there were 652 unusual words found in sixty-three selected First Grade text books, included in fifteen experience classifications. She selected 253 representative words to be used as a basis for the picture vocabulary tests which were administered to three Kindergartens in separate communities, two urban and one rural. Results showed a definite relationship existed

1. E. L. Enright, "The Analysis of Kindergarten Children's Speaking Vocabulary in Relation to First Grade Reading Needs". Unpublished Thesis, Boston University, School of Education, Boston, 1943.

between the experiential background of the children tested and minimum requirements for admission to Kindergarten. Children entering at five years showed better understanding of the tests, had a larger word meaning vocabulary than those entering at four years ten months, and a far superior understanding of the selected vocabulary than those entering at four years and five months. No essential differences in word knowledge were found to exist between urban and rural groups, little sex differences in word knowledge, but boys had a slightly higher percentage in all fields. This is the only study showing this percentage for boys.

In general the research seems to indicate that in the development of the general vocabulary, the young child does not learn all parts of speech simultaneously. First he learns the words that will be most useful to him and which are easiest to learn, like the names of objects or persons and also action words. He learns last the parts of speech which are least useful and most difficult to use, as the pronouns, because he can readily substitute nouns or gestures for them. Adjectives and adverbs appear from the age of one and one-half years, while prepositions and pronouns appear last.

Morgan and Bonham[1] attempted a study with 148 seventh

1. C. L. Morgan and D. N. Bonham, "Difficulty of Vocabulary Learning as Affected by Parts of Speech". Journal of Educational Psychology, XXXV:369-377, 1944.

and eighth grade pupils, studying a foreign language, to determine the extent to which words, as affected by their parts of speech differ in learning difficulty. It was found that nouns were easier to learn than adverbs, verbs, pronouns, prepositions, adjectives and probably interjections. Adverbs would appear to provide the greatest difficulties of word association. Differences in the case of learning of verbs, pronouns, prepositions, adjectives and interjections were so small as to be unreliable.

French, Carter and Koenig[1] investigated the words and sounds of telephone conversations and report that,

> in conversation, attention seems to be paid more to the though than the form of expression, with the exception, perhaps, that certain modes acceptable in writing may be considered as too formal for conversation. The sentences are, indeed, likely to be shorter. They are often incomplete, in fact. Dependent clauses are less frequent than in written matter. Qualification and description often take the form of separate sentences, so that those words characteristic of involved construction tend to be less prominant in conversation, while the framework words, such as the auxiliary verbs and pronouns, are more intensively used.

Halpin[2] made a study of the comprehension difficulties

1. N. R. French, C. W. Carter, Jr. and Walter Koenig, Jr. American Telephone and Telegraph Company Monograph B-491. "A Study of the Kind and Frequency of Occurrance of Words and Simple Speech Sounds Obtained from Telephone Conversations on Toll Circuits Terminating in New York City, June, 1930. p. 2.

2. Frances Halpin, "Comprehension Difficulties of Various Sentence Structures". Unpublished Thesis, Boston University, School of Education, Boston, 1943.

of various sentence structures with fifth and sixth grade children and found that:

(1) sentence length, irrespective of structural form, should be taken into account when judging the comprehension difficulty of a book.
(2) the kind of sentence as to use, declaratory, exclamatory or imperative has no effect on comprehension difficulty.
(3) simple short sentences were elements easy in comprehension.
(4) complex sentences and compound sentences caused an average amount of difficulty.
(5) among the elements of greatest difficulty in comprehension were long sentences and combination of ideas in sentences.

Henley[1] reviewed studies made by other investigators and found all agree that vocabulary and number of words in a sentence are related to comprehension, and that material easy to comprehend is characterized by a large percentage of simple sentences. Experiments with third and fourth grade children indicate that regardless of form or structure sentence length is a factor to be considered in judging a book for comprehension. Henley concludes that

(1) declarative, exclamatory, imperative and interrogative sentences bore no relationship to comprehension difficulties in sentence structure.
(2) short simple sentences were easy elements to comprehend.
(3) compound and complex sentences caused difficulty but not to a great extent.
(4) Long sentences bore the greatest relation to comprehension difficulties.

1. Ruth E. Henley, "Comprehension Difficulties of Sentence Structures." Unpublished Thesis, Boston University, School of Education, Boston, 1938.

An analysis of the parts of speech used by children of different ages was made by McCarthy (1930)[1] and the results show that in early babyhood, the largest percentage of words used consisted of nouns, but this percentage decreased rapidly from 50.0 per cent at eighteen months to 23.4 per cent at three years, because there was an increase in the use of other forms of speech. Verbs, adjectives, pronouns, conjunctions and prepositions also increased in frequency of use, the most pronounced increase being in the case of the latter two. Interjections, on the other hand, decreased from 7.6 per cent at eighteen months to 1.5 per cent at three years, while the number of adverbs in use remained practically constant.

McCarthy[2] reports of the two and one-half year old group the average length of sentence is 3.1 words, and at three years, 3.4 words, at four years, 4.4 words and at four and one-half years, 4.6 words.

At that age, sentences are complete or made up of two short sentences connected with the word "and". McCarthy also found that the tendency to omit the verb reaches a peak between twenty-five and thirty months of age, and decreases. Between the third and fourth years children nor-

1. Dorothy A. McCarthy, "The Language Development of the Preschool Child". Minneapolis: University of Minnesota Press, 1930. p. 114.

2. Ibid.

mally speak in complete sentences in which all parts of speech are used. By the age of six years the child should have command of practically every form of sentence structure.

In the summary of observations taken from the Twenty-Eighth Yearbook of the National Society for the Study of Education[1], Nice[2] outlines the various stages in sentence formation as follows:

(1) the single word stage from four to twelve months.
(2) the early sentence stage from thirteen to twenty-seven months with an average at 17.5 months and characterized by a preponderance of nouns, lack of articles, auxiliaries and copulative verbs, prepositions and conjunctions.
(3) the short sentence stage, which consists of sentences 3.5 to 4.5 words in length and having the same characteristics as the preceding stage, but also to a lesser degree; inflections as not yet mastered, and only one or two sentences out of fifty are compound or complex.
(4) the complete sentence type, which appears at about four years and consists of sentences six to eight words characterized by greater definiteness and complexity as shown by an increased use of relational words and fairly good mastery of inflection.

Emphasis has been placed on sentence structure because of the necessity of guiding children's writing and because

1. The Twenty-Eighth Yearbook of the National Society for the Study of Education. Preschool and Parental Education. Published by Public School Publishing Company, Bloomington, Illinois, Part II:Research and Methods. Studies in Language Development, 1929. pp. 495-563.

2. M. M. Nice, "Length of Sentence as a Criterion of a Child's Progress in Speech". Journal of Educational Psychology, XVI:524, 1925.

of the role of grammar in the school curriculum.[1] Symonds and Daringer[2] state:

> Sentence structure in a language is a key to the logic and structure of thinking, in as much as the sentence is the smallest complete unit of thought. Growth in the power to form complete, concise, balanced, consistent sentences is an index of the growth in clear and accurate thinking.

1. Dorothy McCarthy, p. 524.

2. P. M. Symonds and H. F. Daringer, "Studies in the Learning of English Expression. Sentence Structure". Teachers College Record, XXXII:50-104.

CHAPTER III

THE PLAN OF STUDY

CHAPTER III

THE PLAN OF STUDY

Before analyzing the data obtained from the Hodgkins study, it was necessary to determine what areas were important. It was decided to first analyze the material for sentence structure and here two classifications were chosen:

1. Simple Sentences
2. Compound and Complex Sentences

Some sentences that were partly incomplete but which made sense in context were classified as simple. Examples of this type consisted of answers to questions or a reference to something which was said by another child or by a teacher.

The next breakdown attempted was a study of the length of sentences employed by children of this age level. As the material contained the name and age level of the child, it was decided to make a separate count for boys and girls to see if there might be any significant difference in length of response.

The third area of investigation was the analysis of the parts of speech.

Lockwood's[1] "Exercises in English Grammar" was used as the basic reference in determining how children use words.

1. Harriet R. Lockwood, Essentials in English Grammar with Tests and Key. American Book Company, 1943.

Of the 5222 sentences analyzed, 4440 were of simple construction, ranging from a one word sentence such as a greeting "Hello or Hi"; exclamations such as "look"; questions such as "why", "what" and "where"; simple direct answers as "here", "yes" or "no"; to simple sentences of varied lengths. There were 782 compound and complex sentences. These were mostly of the narrative type, containing many "if's", "and's" and "when's". Some of these were quite long. Here are some examples:

Example: 22 words. (Boy) $4\frac{1}{2}$ years.

"Anyway I'm going to take my painting home so that my Daddy can see it because my Daddy always comes home earlier."

Example: 18 words. (Girl) $4\frac{1}{2}$ years.

"I had to go the Children's Hospital and they had to take an X-Ray of my arm."

Example of a rather long but well constructed sentence.

"When I want to move my arm, my brain sends a message down and I move my arm."

The task of counting the sentence length presented no particular problem. Here it was decided that a basis for sex difference might be significant in the findings and the tabulation proceeded accordingly:

Number of Words Boys Girls

In the analysis of words used as different parts of speech, Lockwood[1] says "a word is classified according to the work it does in the sentence. A word is called a noun if it is used as a name; when used to express action, the same word is called a verb."

Eight parts of speech were considered and counted.

Nouns.

Titles of storybooks, nursery rhymes and records were counted as one noun. Teachers' names were not counted but children's names were as they were generally an essential part of the whole sentence.

Pronouns included personal, possessive, demonstrative, relative and interrogative.

Verbs and Verb Phrases. Verb phrases composed of a group of words made up of a main verb and one or more helping words were counted as only one verb.

Auxiliary verbs such as "am", "was", "might" and others, used with the main verb to form a verb phrase were counted as one. The present participle used with an auxiliary to form the progressive tenses of the verb was also counted as one verb.

1. Lockwood, op. cit., pp. 43-77.

Infinitives were counted as one verb.

Articles were considered as adjectives, an expletive such as the word "there", when used as an introductory word in a sentence, was counted as an interjection.

The remaining parts of speech, adverbs, prepositions and conjunctions presented no particular problem in analysis.

CHAPTER IV

ANALYSIS OF THE DATA

CHAPTER IV

ANALYSIS OF THE DATA

TABLE I

SENTENCE STRUCTURE

Total Number of Sentences Analyzed		5222
Simple Sentences	4440	85%
Complex and Compound	782	15%
TOTAL	5222	100%

Of the 5222 sentences analyzed, 85% were simple and 15% were compound or complex. It would seem that children of this age level use about six simple sentences to one compound or complex sentence.

TABLE II

LENGTH OF SENTENCE ANALYSIS

BOYS		GIRLS	
Sentences	No. of Words	Sentences	No. of Words
664	4	420	4
531	5	374	5
464	3	239	3
440	6	199	7
284	7	174	6
227	2	113	8
177	8	111	2
108	9	73	9
85	10	62	10
47	1	32	11
43	11	30	1
32	12	21	12
21	13	16	14
18	14	16	13
11	16	6	18
7	15	4	15
4	19	3	17
1	18	2	19
1	20	1	16
1	21	1	20
1	22		
1	28		

TOTAL POPULATION OF BOYS SHOWING DISTRIBUTION

BOYS	SENTENCE LENGTH
No. of Sentences	No. of Words
47	1
227	2
464	3
664	4
531	5
440	6
284	7
177	8
108	9
85	10
43	11
32	12
21	13
18	14
7	15
11	16
4	17
1	18
4	19
1	20
1	21
1	22
0	23
0	24
0	25
0	26
0	27
1	28

TOTAL 3172

TOTAL POPULATION OF GIRLS SHOWING DISTRIBUTION

GIRLS	SENTENCE LENGTH
No. of Sentences	No. of Words
30	1
111	2
239	3
420	4
374	5
174	6
199	7
113	8
73	9
62	10
32	11
21	12
16	13
16	14
4	15
1	16
3	17
6	18
2	19
1	20

TOTAL 1897

	No.	Mean	Diff.	$S.E._D$	C.R.
Boys	3172	5.33	.20	3.886	.051
Girls	1897	5.53			

The mean sentence length for boys is 5.33 and for girls, 5.53.

The critical ratio of .051 shows little significant difference in sentence length between boys and girls. More boys than girls use a larger number of sentences, containing one or two words but a larger number of boys use sentences containing 15 or more words. The sentences are largely of a directive or descriptive nature, that is, they would describe a plan of work or some dramatic play.

TABLE III

PARTS OF SPEECH

PARTS OF SPEECH	NO. OF WORDS	%
Verbs	7192	25
Pronouns	6189	21
Nouns	5060	18
Adjectives	4719	16
Adverbs	3111	11
Prepositions	1316	5
Conjunctions	615	2
Interjections	587	2
TOTAL NO. OF WORDS COUNTED	28849	100%

The entire vocabulary analyzed in this 4 to 5 year old group contained 28,849 words, distributed among the different parts of speech as follows: verbs, 25 per cent; pronouns, 21 per cent; nouns, 18 per cent; adjectives, 16 per cent; adverbs, 11 per cent; prepositions, 5 per cent; conjunctions, 2 per cent and interjections, 2 per cent.

There were comparatively few prepositions used, probably because of the difficulty they present in usage at this age level. As might be expected, there was a falling off in the use of conjunctions and interjections.

CHAPTER V

SUMMARY

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This study revealed that young children from homes in the higher socioeconomic level, having had fine speech patterns and enriched experiences, tend to develop and to use fairly correct speech habits.

Most sentences were complete, consisting of a mean length of 5.5 and showed a fairly good mastery of inflections. The sentences were mostly of simple structure. There was no appreciable difference in sentence length for boys and girls.

In the analysis of parts of speech, verbs, pronouns and nouns were in greater usage, than the remaining parts of speech. There were more adjectives than adverbs but the adverbs were used with ease. Prepositions had a small frequency of use because of the difficulty most children of this age level experience with them. They are likely to omit them entirely in their sentences, or to substitute actions for them.

Ninety-one per cent of the total number of words counted and analyzed contained these five parts of speech in this order: verbs, pronouns, nouns, adjectives and adverbs. The remaining nine per cent was divided among prepositions, conjunctions and interjections.

CHAPTER VI

SUGGESTIONS FOR FURTHER STUDY

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1. Make an analysis of the Hodgkin's material for indications of the dominant interests of 4 and 5 year old children.

2. Make a study of the verbs used. Of interest, is the large percentage of command verbs. Children of this age appear to get great satisfaction when they assert themselves.

3. A further study might be made of tenses. The verb forms used denoted a fair mastery of inflection.

4. There was great interest in personal health. Many sentences were devoted to accidents and experiences with doctors and hospitals. Much dramatic play and conversation centered around the health and care of babies. It seemed of interest to both boys and girls.

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